Daily Diary Report by Bid Item

Contract No.: **04-0120F4**

Diary #: **634** **Const Calendar Day:** 58 **Date:** **01-Aug-2012** **Wednesday**
Inspector Name: **Bruce, Matt** **Title:** **Transportation Engineer**
Inspection Type: Continuous
Shift Hours: 07:00 am 03:30 pm **Break:** 00:30 **Over Time:**
Federal ID:
Location:
Reviewer: **Schmitt, Alex** **Approved Date:** **Status:** Submit

04-0120F4
04-SF-80-13.2/13.9
Self-Anchored
Suspension Bridge

Weather

Temperature **7 AM** 50 - 60 **12 PM** 60 - 70 **4PM** 60 - 70
Precipitation 0.00" **Condition** Overcast in the early AM to sunny

Working Day ☐ If no, explain:

Diary: Dispute ☐

Work description.

- Continued to write outstanding diaries for the last month.

- Calibrated the Topcon GPS equipment with the localized SFOBB east span project control. The points used for this calibration were the following in the order measured:

1.) TIN3 (Point Number - 3, on Treasure Island NGS brass cap)

2.) 6056 (Flight Target between Treasure and Yerba Buena)

3.) Receive Reset 1970 (Point Number - 100, NGS brass cap in the SF Coast Guard Base on Yerba Buena Island)

4.) WP306 (Point Number - 306, on Yerba Buena Island near existing E2 pier)

5.) SKY3 (Located on the north side of the Westbound Skyway over the E3 pier table)

All points were shot at 180 epochs and points 6203 (TI), Receive Reset 1970, PT-102 (SF Coast Guard Pier), 6040 (YBI near the tunnel), EE-81 (Treasure Island Navy Pier), MB007 (Treasure Island Navy Pier), TIN3, and SKY3 were checked after the localization was complete at epochs of 5 and 30.

The K-value during this calibration was 1 with a 24 hour maximum of 2. Once again this calibration needs to be redone since the check shot elevations consistently average 115mm higher than the prescribed control value which is unacceptable. It should be noted that the distance between the receiver and the tribrach mount is 136mm. This might be the possible solution to the discrepancies in elevation, which for even GPS are out of tolerance. Also the caibration done today was done in lieu of the same problems encountered during the last attempt at a GPS calibration on July 11th using the same points.

Since the last upgrade in software there may be a new definition of the point where the receiver is measuring the elevation. There also could have been a change in the base station control network elevations. I called and left a message with ESC salesman/surveyor Chuck Madrid to resolve this issue. The horizontal and vertical residuals of the localization were acceptable, which leads me to believe that there was a change from Topcon's end instead of any error on my end.

GPS calibrations should be done 3 to 4 times a year to account for earth's tectonic plate movement. Also the values obtained from SKY3 on July 11th, 2012 were used again since the Skyway doesn't exhibit daily movement unlike the SAS but rather seasonal or quarterly.

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Job Name: 04-0120F4 **Inspector Name** Bruce, Matt **Diary #:** 634 **Date:** 01-Aug-2012 Wednesday

- Began to move the paperwork and survey equipment that I have been storing in the cubicles next to mine at the request of HNTB consultant Marie Reich.